MY NASA DATA

Started in January 2004

Dr. Lin Chambers, Susan Moore, Penny Oots, Erica Alston, Joyce Fischer, Carrie Phelps, and Dennis Diones

NASA Langley Research Center, Hampton, VA

About MY NASA DATA

- A project that enables K-12 teachers and students, as well as citizen scientists, to explore the large volumes of data that NASA collects about the Earth from space.
- Students use scientific inquiry and math skills as they access and display microsets of the Earth System

The MY NASA DATA Project: Patterns in Data

One long acroynym!

Mentoring and inquir**Y** using **NASA** **D**ata on **A**tmospheric and Earth Science for **T**eachers and **A**mateurs

- ***Microsets*** of scientific data
- Mentor Network
- Open Source

The MY NASA DATA Project: Patterns in Data

- What is a ***microset***?
  - One or a few parameters from a larger file
  - Time series for one location
  - File small enough for easy transfer
  - Format accessible to standard or free software
  - Static or custom-created

GOAL: Overcome the barriers to data exploration

Tools we are using so far

- ASCII format
- Excel or other spreadsheet
- Live Access Server for custom microsets
  - Arranged by topic
  - Output as plot, text, GIS format …
- IDL Virtual Machine (http://www.rsinc.com)

Live Access Server (LAS)

+ MY NASA DATA HOME | + DATA ACCESS | + LESSON PLANS | + COMPUTER TOOLS | + SCIENCE FOCUS | + GLOSSARY

single data set | com-pare two

Select Datasets
Show Variables
Set Constraints
View Output

Output Options
Previous Output

Define variable

About Live Access Server

LAS UI Version 6.4

Datasets > Atmosphere

Click on a dataset to continue or an ℹ for information about a dataset. Help

Select dataset:

- Aerosols
- Air Quality
- Atmospheric Pressure
- Atmospheric Radiation
- Atmospheric Temperature
- Clouds

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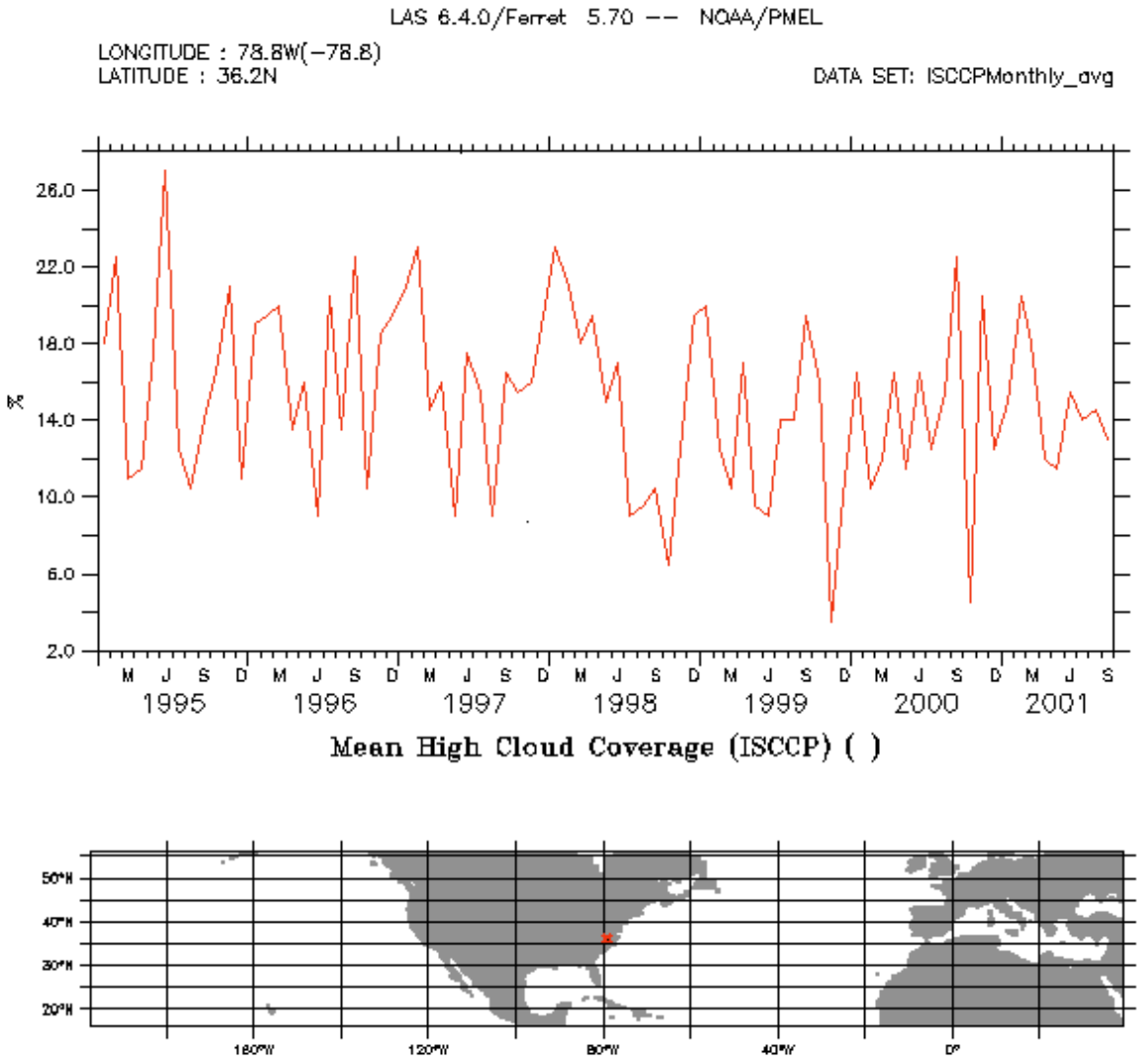
Result



Send all plot output to main window
Open a new window for each plot
Permanent link to this plot/data

Mentor Network

- Scientifically or pedagogically literate e-mentors
- Available to consult with teachers on data use
  - Use of data in regular instruction
  - Use of data in science fair projects, etc…
- Registration form available on website
- Ask-a-Mentor page on website

Open Source - Expanded

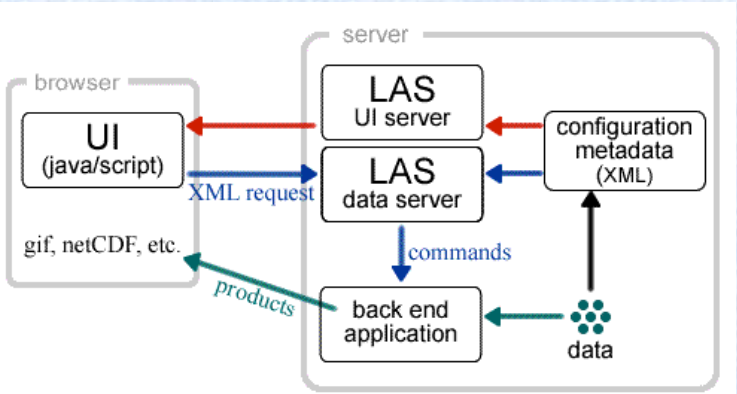
- Lesson plans from teachers (16 so far)
  - More in progress
- Projects and ideas
  - From students
  - From citizen scientists
  - Data use (using MY NASA DATA and others)
  - Data collection
    - GLOBE (http://www.globe.gov)
    - S'COOL (http://scool.larc.nasa.gov)
    - Other?
- Submission through on-line form or by email

How to get involved

- MY NASA DATA (http://mynasadata.larc.nasa.gov)
  - Use posted lesson plans
  - We welcome feedback and suggestions!
  - Look for workshops at future teacher conferences
  - Join the e-Mentor network and help to answer questions
  - Contribute your own lesson plan

What is LAS?

- Highly configurable Web server
- Flexible access to geo-referenced data
- Written in Perl, Java and Javascript
- XML configuration files, MySQL
- Ferret visualization application
- OPeNDAP client



Who is using LAS?

- NOAA
- NASA
- NCAR
- U. S. Navy
- Dept. of Energy
- MY NASA DATA

LAS enables the Web user

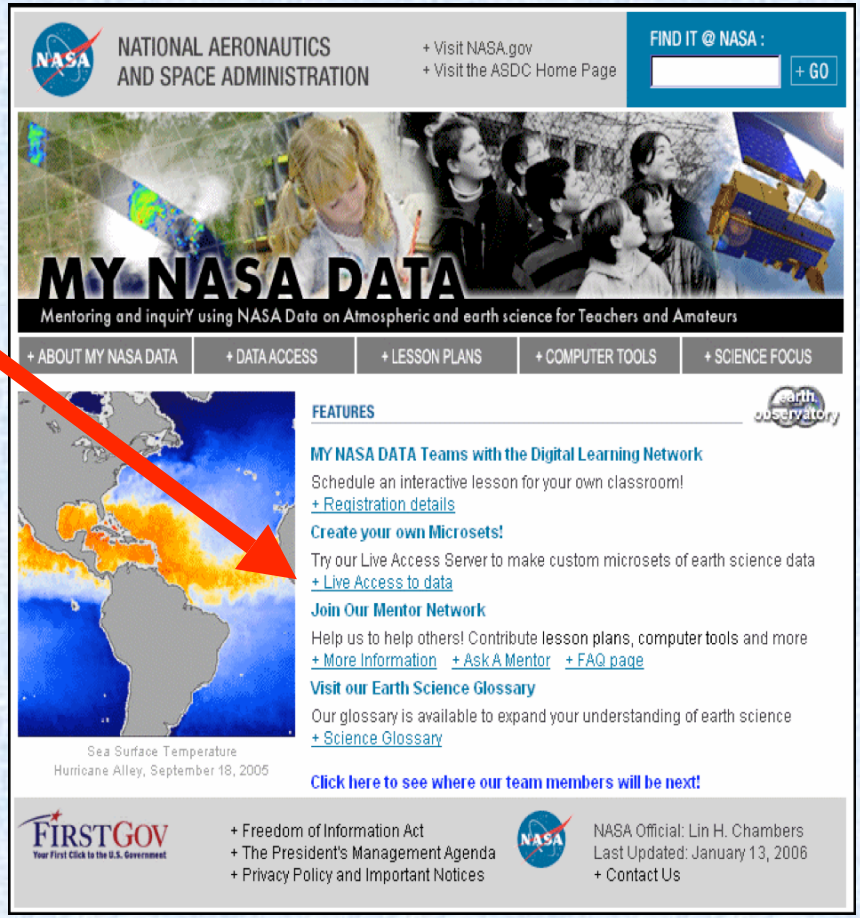
- Visualize data with on-the-fly graphics
- Make custom subsets of variables
- Make choice of output file formats
- Access metadata
- Compare and create variables
- Save or regenerate graphics

LAS enables the Data Provider

- Unify access to multiple types of data
- Allow specialized visualization styles
- Offer custom data products on the fly
- Create thematic data categories
- Remedy metadata inadequacies

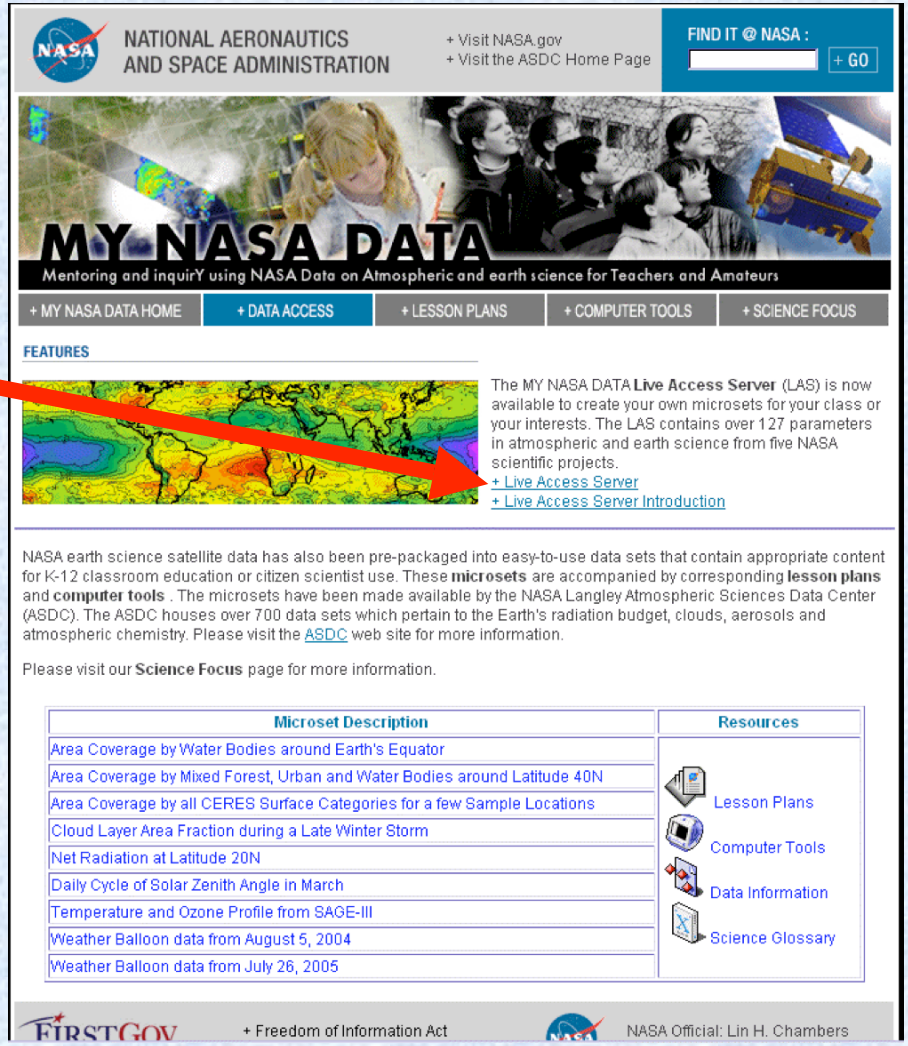
How to create data

- From home page, click on *Live Access to data*



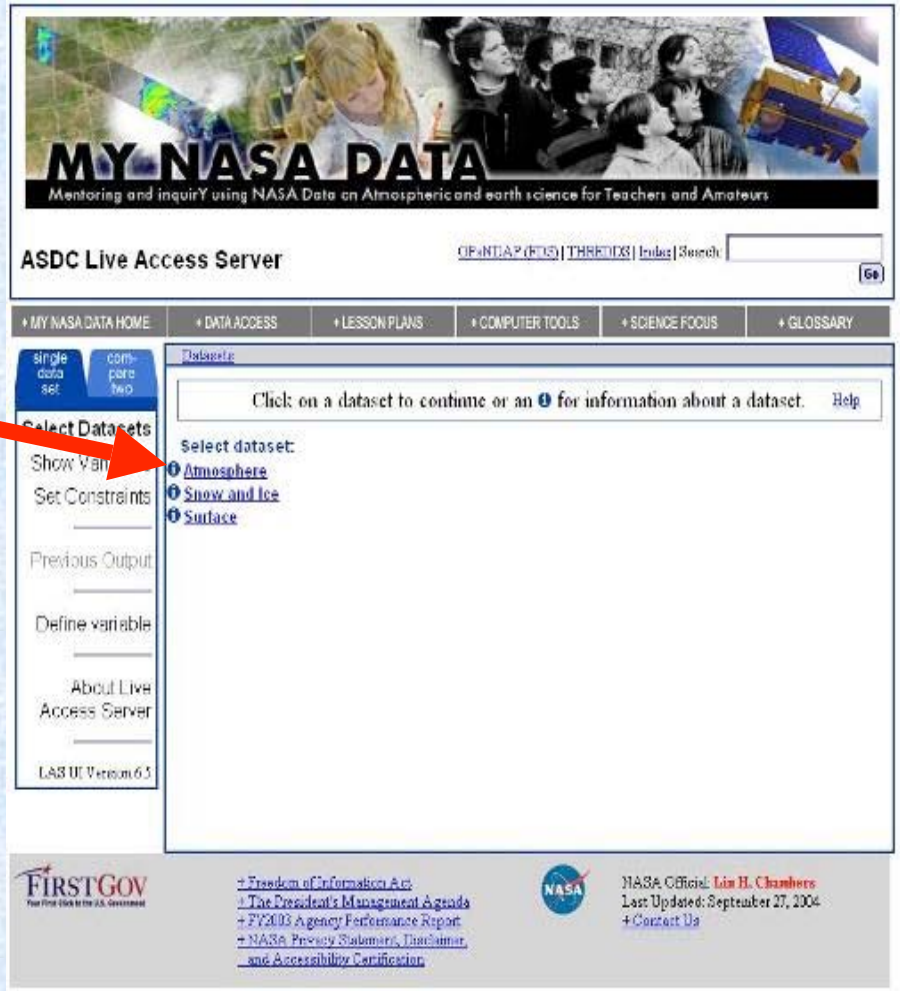
How to create data

- From the Data Access page, click on *Live Access Server*



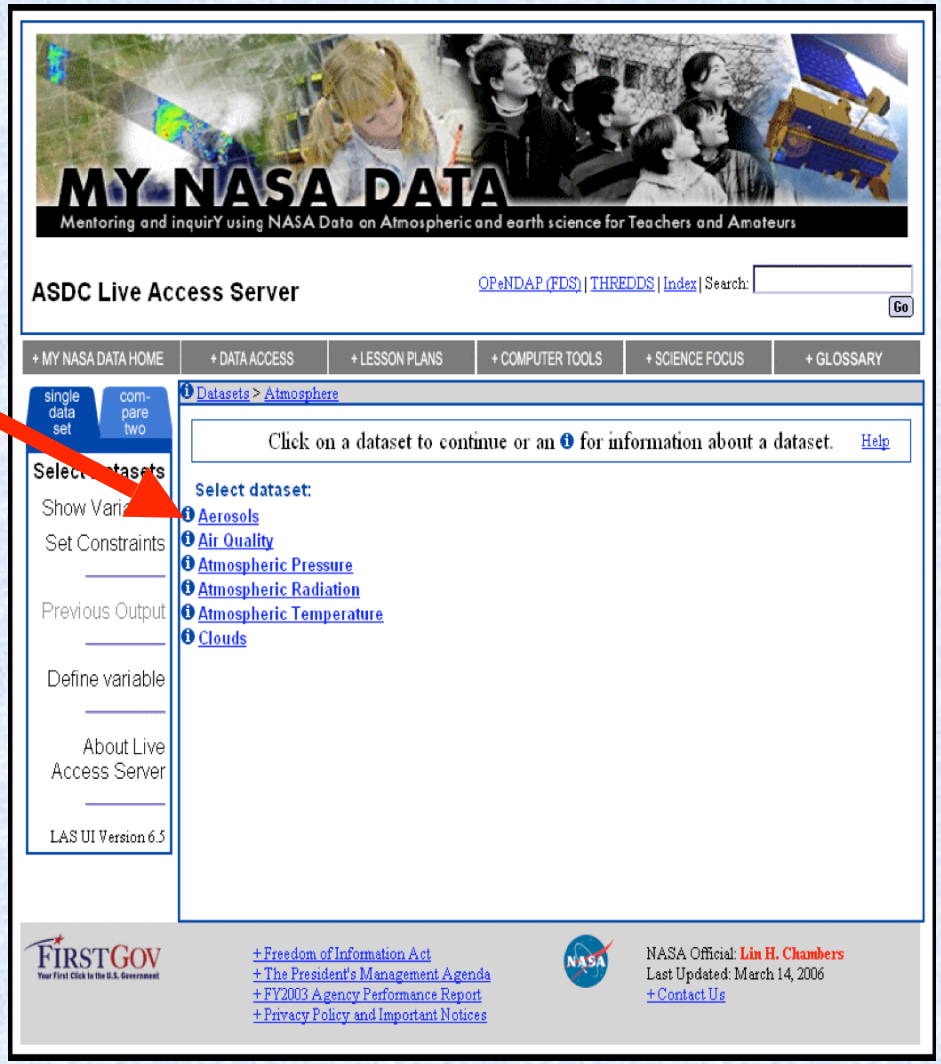
How to create data

- Choose the type of dataset you would like to explore by clicking on the dataset name
- For example, we are choosing Atmosphere



How to create data

- Now we choose the name of the dataset we want to explore
- For example we choose *Aerosols*

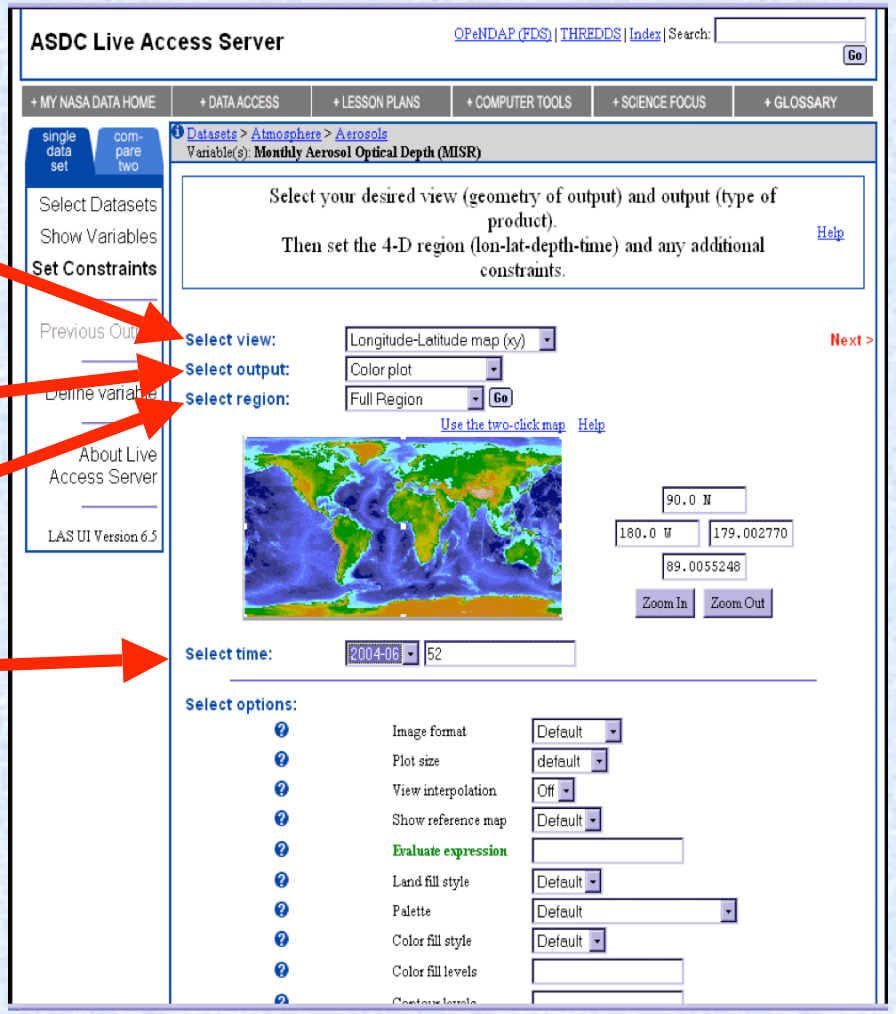


How to create data

- We now select the name of the variable(s) we want to explore;
- To select the variable, check the box(es) of the variable(s) you want
- Note-for this dataset there is only one option available

How to create data

- Now you choose your output options:
  - View (Hofmoeller or Time series)
  - Output (Color plot or line plot)
  - Region (Global or Continent)
  - Time (date range)
- For example, we choose *Longitude-Latitude map*, *Color plot*, *Full Region*, *June 2004*



How to create data: result